

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Westfield

Westfield Executive Park

53 Southampton Road

Westfield, MA 01085

Tel: (413)572-4000

OF PARAMETERS ORDERED BY:

TestAmerica Job ID: 360-37491-1

Client Project/Site: Olin Chemical Surfacewater

For:

Olin Corporation

PO BOX 248

Charleston, Tennessee 37310-0248

CHECKED FOR COMPLETENESS
OF PARAMETERS ORDERED BY:



Attn: Mr. James Cashwell



Authorized for release by:

11/28/2011 2:29:40 PM

Chris Reynolds

QA Manager

chris.reynolds@testamericainc.com

Designee for

Becky Mason

Project Manager II

becky.mason@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: Olin Corporation
Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Job ID: 360-37491-1

Laboratory: TestAmerica Westfield

Narrative

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

TestAmerica's Reporting Limits (RLs) for this report may not always meet WSC-CAM-III method reporting limits due to various reasons such as methodology, dilutions or moisture content (soils). TestAmerica's MA pivot table EDD documents which compound(s) exceed certain regulatory standards. If not included with your deliverables, please contact your Project Manager about the availability of this EDD for your report.

RECEIPT

The samples were received on 11/08/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was C.

Note: All samples that require thermal preservation are considered acceptable if the arrival temperature is within the method's specified temperature range or for general analysis, ranging from 6°C to just above the freezing temperature of water. Samples that are hand delivered, immediately following collection, may not meet these criteria; however, they will be considered acceptable according to NELAC and State standards, if there is evidence that the chilling process has begun, such as stored and transported to the laboratory on ice.

DISSOLVED METALS

Samples OC-SW-ISC01 (360-37491-1), OC-SW-ISC02 (360-37491-2), OC-SW-ISC03 (360-37491-3), OC-SW-PZ16RR (360-37491-4), OC-SW-PZ17RR (360-37491-5), OC-SW-PZ18R (360-37491-6), OC-SW-SD17 (360-37491-7) and OC-SW-PZ18R-DUP (360-37491-8) were analyzed for dissolved metals in accordance with EPA SW-846 Method 6010B. The samples were analyzed on 11/15/2011.

At the request of the client, an abbreviated/modified MCP analyte list was reported for this job.

No difficulties were encountered during the dissolved metals analyses.

All quality control parameters were within the acceptance limits.

TOTAL METALS (ICP)

Samples OC-SW-ISC01 (360-37491-1), OC-SW-ISC02 (360-37491-2), OC-SW-ISC03 (360-37491-3), OC-SW-PZ16RR (360-37491-4), OC-SW-PZ17RR (360-37491-5), OC-SW-PZ18R (360-37491-6), OC-SW-SD17 (360-37491-7) and OC-SW-PZ18R-DUP (360-37491-8) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 11/09/2011 and 11/10/2011 and analyzed on 11/11/2011 and 11/14/2011.

Sodium was detected in method blank MB 360-83163/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details.

At the request of the client, an abbreviated/modified MCP analyte list was reported for this job.

No other difficulties were encountered during the metals analyses.

All other quality control parameters were within the acceptance limits.

SPECIFIC CONDUCTIVITY

Samples OC-SW-ISC01 (360-37491-1), OC-SW-ISC02 (360-37491-2), OC-SW-ISC03 (360-37491-3), OC-SW-PZ16RR (360-37491-4),

Case Narrative

Client: Olin Corporation
Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Job ID: 360-37491-1 (Continued)

Laboratory: TestAmerica Westfield (Continued)

OC-SW-PZ17RR (360-37491-5), OC-SW-PZ18R (360-37491-6), OC-SW-SD17 (360-37491-7) and OC-SW-PZ18R-DUP (360-37491-8) were analyzed for specific conductivity in accordance with SM20 2510B. The samples were analyzed on 11/12/2011.

No difficulties were encountered during the conductivity analyses.

All quality control parameters were within the acceptance limits.

ANIONS (28 DAY HOLD TIME)

Samples OC-SW-ISC01 (360-37491-1), OC-SW-ISC02 (360-37491-2), OC-SW-ISC03 (360-37491-3), OC-SW-PZ16RR (360-37491-4), OC-SW-PZ17RR (360-37491-5), OC-SW-PZ18R (360-37491-6), OC-SW-SD17 (360-37491-7) and OC-SW-PZ18R-DUP (360-37491-8) were analyzed for anions (28 day hold time) in accordance with EPA Method 300.0. The samples were analyzed on 11/09/2011 and 11/10/2011.

Samples OC-SW-ISC01 (360-37491-1)[10X], OC-SW-ISC02 (360-37491-2)[10X], OC-SW-ISC03 (360-37491-3)[10X], OC-SW-PZ16RR (360-37491-4)[10X], OC-SW-PZ17RR (360-37491-5)[10X], OC-SW-PZ18R (360-37491-6)[10X], OC-SW-SD17 (360-37491-7)[10X] and OC-SW-PZ18R-DUP (360-37491-8)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the anions analyses.

All quality control parameters were within the acceptance limits.

ANIONS (48 HR HOLD TIME)

Samples OC-SW-ISC01 (360-37491-1), OC-SW-ISC02 (360-37491-2), OC-SW-ISC03 (360-37491-3), OC-SW-PZ16RR (360-37491-4), OC-SW-PZ17RR (360-37491-5), OC-SW-PZ18R (360-37491-6), OC-SW-SD17 (360-37491-7) and OC-SW-PZ18R-DUP (360-37491-8) were analyzed for anions (48 hr hold time) in accordance with EPA Method 300.0. The samples were analyzed on 11/09/2011 and 11/10/2011.

Samples OC-SW-ISC03 (360-37491-3)[10X], OC-SW-PZ16RR (360-37491-4)[10X] and OC-SW-PZ17RR (360-37491-5)[10X] required dilution prior to analysis due to the presence of elevated chloride concentration which co-elutes with the nitrite peak . The reporting limits have been adjusted accordingly.

No difficulties were encountered during the anions analyses.

All quality control parameters were within the acceptance limits.

AMMONIA

Samples OC-SW-ISC01 (360-37491-1), OC-SW-ISC02 (360-37491-2), OC-SW-ISC03 (360-37491-3), OC-SW-PZ16RR (360-37491-4), OC-SW-PZ17RR (360-37491-5), OC-SW-PZ18R (360-37491-6), OC-SW-SD17 (360-37491-7) and OC-SW-PZ18R-DUP (360-37491-8) were analyzed for ammonia in accordance with Lachat 107-06-1B. The samples were prepared on 11/15/2011 and analyzed on 11/16/2011.

Ammonia failed the recovery criteria high for the MS of sample OC-SW-PZ18RMS (360-37491-6) in batch 360-83489.

Ammonia failed the recovery criteria high for the MSD of sample OC-SW-PZ18RMSD (360-37491-6) in batch 360-83489. The presence of the '4' qualifier in the report indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Refer to the QC report for details.

Samples OC-SW-ISC01 (360-37491-1)[10X], OC-SW-ISC02 (360-37491-2)[10X], OC-SW-PZ16RR (360-37491-4)[10X], OC-SW-PZ17RR (360-37491-5)[10X], OC-SW-PZ18R (360-37491-6)[10X], OC-SW-SD17 (360-37491-7)[10X] and OC-SW-PZ18R-DUP (360-37491-8)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the ammonia analyses.

All other quality control parameters were within the acceptance limits.

MassDEP Analytical Protocol Certification Form						
Laboratory Name:	TestAmerica Westfield			Project #:	360-37491-1	
Project Location:	Olin Wilmington MA			RTN:		
This form provides certifications for the following data set: list Laboratory Sample ID Number(s):						
360-37491-1 [1-8]						
Matrices:	<input checked="" type="checkbox"/> Groundwater/Surface Water <input type="checkbox"/> Soil/Sediment <input type="checkbox"/> Drinking Water <input type="checkbox"/> Air <input type="checkbox"/> Other:					
CAM Protocols (check all that apply below):						
8260 VOC CAM II A	7470/7471 Hg CAM III B	Mass DEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	Mass DEP APH CAM IX A	
8270 SVOC CAM II B	7010 Metals CAM III C	Mass DEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B	
6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	9014 Total Cyanide/PAC CAM VI A	332.0 Perchlorate CAM VIII B		
Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status						
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding time.					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	a. VPH, EPH and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?					<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Responses to Questions G, H and I below are required for "Presumptive Certainty" status						
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
<i>Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WCS-07-350</i>						
H	Were all QC performance standards specified in the CAM protocol(s) achieved?					<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s) ?					<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
¹ All negative responses must be addressed in an attached laboratory narrative.						
<i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.</i>						
Signature:				Position:	Laboratory Director	
Printed Name:	Steven C. Hartmann			Date:	11/28/11 14:15	
This form has been electronically signed and approved						

Detection Summary

Client: Olin Corporation

Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Client Sample ID: OC-SW-ISC01

Lab Sample ID: 360-37491-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	150		100	13	ug/L	1		6010B	Dissolved
Chromium	13		5.0	0.65	ug/L	1		6010B	Dissolved
Sodium	98000		2000	280	ug/L	1		6010B	Dissolved
Aluminum	330		100	13	ug/L	1		6010B	Total/NA
Chromium	30		5.0	0.65	ug/L	1		6010B	Total/NA
Sodium	89000		2000	280	ug/L	1		6010B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	0.20		0.050	0.050	mg/L	1		300.0	Total/NA
Sulfate	110		20	20	mg/L	10		300.0	Total/NA
Chloride	120		10	10	mg/L	10		300.0	Total/NA
Ammonia	25		1.0	1.0	mg/L	10		L107-06-1B	Total/NA
Specific Conductance	760		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: OC-SW-ISC02

Lab Sample ID: 360-37491-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	130		100	13	ug/L	1		6010B	Dissolved
Chromium	27		5.0	0.65	ug/L	1		6010B	Dissolved
Sodium	100000		2000	280	ug/L	1		6010B	Dissolved
Aluminum	4000		100	13	ug/L	1		6010B	Total/NA
Chromium	750		5.0	0.65	ug/L	1		6010B	Total/NA
Sodium	84000		2000	280	ug/L	1		6010B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	1.1		0.050	0.050	mg/L	1		300.0	Total/NA
Sulfate	180		20	20	mg/L	10		300.0	Total/NA
Chloride	97		10	10	mg/L	10		300.0	Total/NA
Ammonia	33		1.0	1.0	mg/L	10		L107-06-1B	Total/NA
Specific Conductance	860		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: OC-SW-ISC03

Lab Sample ID: 360-37491-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	28	J	100	13	ug/L	1		6010B	Dissolved
Sodium	100000		2000	280	ug/L	1		6010B	Dissolved
Aluminum	200		100	13	ug/L	1		6010B	Total/NA
Chromium	2.0	J	5.0	0.65	ug/L	1		6010B	Total/NA
Sodium	93000		2000	280	ug/L	1		6010B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	1.0		0.050	0.050	mg/L	1		300.0	Total/NA
Sulfate	33		2.0	2.0	mg/L	1		300.0	Total/NA
Chloride	170		10	10	mg/L	10		300.0	Total/NA
Ammonia	1.7		0.10	0.10	mg/L	1		L107-06-1B	Total/NA
Specific Conductance	740		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: OC-SW-PZ16RR

Lab Sample ID: 360-37491-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	69	J	100	13	ug/L	1		6010B	Dissolved
Chromium	23		5.0	0.65	ug/L	1		6010B	Dissolved
Sodium	130000		2000	280	ug/L	1		6010B	Dissolved
Aluminum	1800		100	13	ug/L	1		6010B	Total/NA
Chromium	380		5.0	0.65	ug/L	1		6010B	Total/NA
Sodium	110000		2000	280	ug/L	1		6010B	Total/NA

Detection Summary

Client: Olin Corporation

Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Client Sample ID: OC-SW-PZ16RR (Continued)

Lab Sample ID: 360-37491-4

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	1.8		0.050	0.050	mg/L	1		300.0	Total/NA
Sulfate	160		20	20	mg/L	10		300.0	Total/NA
Chloride	120		10	10	mg/L	10		300.0	Total/NA
Ammonia	31		1.0	1.0	mg/L	10		L107-06-1B	Total/NA
Specific Conductance	950		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: OC-SW-PZ17RR

Lab Sample ID: 360-37491-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	110		100	13	ug/L	1		6010B	Dissolved
Chromium	55		5.0	0.65	ug/L	1		6010B	Dissolved
Sodium	140000		2000	280	ug/L	1		6010B	Dissolved
Aluminum	2000		100	13	ug/L	1		6010B	Total/NA
Chromium	470		5.0	0.65	ug/L	1		6010B	Total/NA
Sodium	120000		2000	280	ug/L	1		6010B	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	1.8		0.050	0.050	mg/L	1		300.0	Total/NA
Sulfate	180		20	20	mg/L	10		300.0	Total/NA
Chloride	130		10	10	mg/L	10		300.0	Total/NA
Ammonia	33		1.0	1.0	mg/L	10		L107-06-1B	Total/NA
Specific Conductance	1000		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: OC-SW-PZ18R

Lab Sample ID: 360-37491-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	170		100	13	ug/L	1		6010B	Dissolved
Chromium	14		5.0	0.65	ug/L	1		6010B	Dissolved
Sodium	96000		2000	280	ug/L	1		6010B	Dissolved
Aluminum	270		100	13	ug/L	1		6010B	Total/NA
Chromium	22		5.0	0.65	ug/L	1		6010B	Total/NA
Sodium	88000		2000	280	ug/L	1		6010B	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	0.20		0.050	0.050	mg/L	1		300.0	Total/NA
Sulfate	120		20	20	mg/L	10		300.0	Total/NA
Chloride	120		10	10	mg/L	10		300.0	Total/NA
Ammonia	30		1.0	1.0	mg/L	10		L107-06-1B	Total/NA
Specific Conductance	780		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Client Sample ID: OC-SW-SD17

Lab Sample ID: 360-37491-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	1900		100	13	ug/L	1		6010B	Dissolved
Chromium	370		5.0	0.65	ug/L	1		6010B	Dissolved
Sodium	140000		2000	280	ug/L	1		6010B	Dissolved
Aluminum	2100		100	13	ug/L	1		6010B	Total/NA
Chromium	470		5.0	0.65	ug/L	1		6010B	Total/NA
Sodium	120000	B	2000	280	ug/L	1		6010B	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	1.7		0.050	0.050	mg/L	1		300.0	Total/NA
Sulfate	190		20	20	mg/L	10		300.0	Total/NA
Chloride	130		10	10	mg/L	10		300.0	Total/NA
Ammonia	32		1.0	1.0	mg/L	10		L107-06-1B	Total/NA
Specific Conductance	1000		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Detection Summary

Client: Olin Corporation

Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Client Sample ID: OC-SW-PZ18R-DUP

Lab Sample ID: 360-37491-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	180		100	13	ug/L	1		6010B	Dissolved
Chromium	15		5.0	0.65	ug/L	1		6010B	Dissolved
Sodium	96000		2000	280	ug/L	1		6010B	Dissolved
Aluminum	260		100	13	ug/L	1		6010B	Total/NA
Chromium	21		5.0	0.65	ug/L	1		6010B	Total/NA
Sodium	83000	B	2000	280	ug/L	1		6010B	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	0.20		0.050	0.050	mg/L	1		300.0	Total/NA
Sulfate	110		20	20	mg/L	10		300.0	Total/NA
Chloride	120		10	10	mg/L	10		300.0	Total/NA
Ammonia	29		1.0	1.0	mg/L	10		L107-06-1B	Total/NA
Specific Conductance	780		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

Method Summary

Client: Olin Corporation

Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Method	Method Description	Protocol	Laboratory
6010B	Total Metals	SW846	TAL WFD
6010B	Dissolved Metals	SW846	TAL WFD
300.0	Chloride & Sulfate	40CFR136A	TAL WFD
300.0	Nitrate & Nitrite	40CFR136A	TAL WFD
L107-06-1B	Nitrogen Ammonia	LACHAT	TAL WFD
SM 2510B	Conductivity, Specific Conductance	SM	TAL WFD

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

LACHAT = LACHAT

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL WFD = TestAmerica Westfield, Westfield Executive Park, 53 Southampton Road, Westfield, MA 01085, TEL (413)572-4000

Sample Summary

Client: Olin Corporation

Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
360-37491-1	OC-SW-ISC01	Water	11/08/11 12:45	11/08/11 17:10
360-37491-2	OC-SW-ISC02	Water	11/08/11 11:45	11/08/11 17:10
360-37491-3	OC-SW-ISC03	Water	11/08/11 11:30	11/08/11 17:10
360-37491-4	OC-SW-PZ16RR	Water	11/08/11 11:55	11/08/11 17:10
360-37491-5	OC-SW-PZ17RR	Water	11/08/11 12:10	11/08/11 17:10
360-37491-6	OC-SW-PZ18R	Water	11/08/11 12:30	11/08/11 17:10
360-37491-7	OC-SW-SD17	Water	11/08/11 12:20	11/08/11 17:10
360-37491-8	OC-SW-PZ18R-DUP	Water	11/08/11 12:30	11/08/11 17:10

Client Sample Results

Client: Olin Corporation

Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Method: 6010B - Dissolved Metals - Dissolved

Client Sample ID: OC-SW-ISC01

Date Collected: 11/08/11 12:45

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-1

Matrix: Water

Analyte

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	150		100	13	ug/L			11/15/11 17:05	1
Chromium	13		5.0	0.65	ug/L			11/15/11 17:05	1
Sodium	98000		2000	280	ug/L			11/15/11 17:05	1

Client Sample ID: OC-SW-ISC02

Date Collected: 11/08/11 11:45

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-2

Matrix: Water

Analyte

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	130		100	13	ug/L			11/15/11 17:08	1
Chromium	27		5.0	0.65	ug/L			11/15/11 17:08	1
Sodium	100000		2000	280	ug/L			11/15/11 17:08	1

Client Sample ID: OC-SW-ISC03

Date Collected: 11/08/11 11:30

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-3

Matrix: Water

Analyte

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	28	J	100	13	ug/L			11/15/11 17:11	1
Chromium	ND		5.0	0.65	ug/L			11/15/11 17:11	1
Sodium	100000		2000	280	ug/L			11/15/11 17:11	1

Client Sample ID: OC-SW-PZ16RR

Date Collected: 11/08/11 11:55

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-4

Matrix: Water

Analyte

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	69	J	100	13	ug/L			11/15/11 17:18	1
Chromium	23		5.0	0.65	ug/L			11/15/11 17:18	1
Sodium	130000		2000	280	ug/L			11/15/11 17:18	1

Client Sample ID: OC-SW-PZ17RR

Date Collected: 11/08/11 12:10

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-5

Matrix: Water

Analyte

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	110		100	13	ug/L			11/15/11 17:21	1
Chromium	55		5.0	0.65	ug/L			11/15/11 17:21	1
Sodium	140000		2000	280	ug/L			11/15/11 17:21	1

Client Sample ID: OC-SW-PZ18R

Date Collected: 11/08/11 12:30

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-6

Matrix: Water

Analyte

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	170		100	13	ug/L			11/15/11 16:47	1
Chromium	14		5.0	0.65	ug/L			11/15/11 16:47	1
Sodium	96000		2000	280	ug/L			11/15/11 16:47	1

Client Sample Results

Client: Olin Corporation

Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Method: 6010B - Dissolved Metals - Dissolved

Client Sample ID: OC-SW-SD17

Date Collected: 11/08/11 12:20

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1900		100	13	ug/L			11/15/11 17:24	1
Chromium	370		5.0	0.65	ug/L			11/15/11 17:24	1
Sodium	140000		2000	280	ug/L			11/15/11 17:24	1

Client Sample ID: OC-SW-PZ18R-DUP

Date Collected: 11/08/11 12:30

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	180		100	13	ug/L			11/15/11 17:26	1
Chromium	15		5.0	0.65	ug/L			11/15/11 17:26	1
Sodium	96000		2000	280	ug/L			11/15/11 17:26	1

Client Sample Results

Client: Olin Corporation
Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Method: 6010B - Total Metals

Client Sample ID: OC-SW-ISC01

Lab Sample ID: 360-37491-1

Date Collected: 11/08/11 12:45

Matrix: Water

Date Received: 11/08/11 17:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	330		100	13	ug/L		11/09/11 11:49	11/11/11 18:17	1
Chromium	30		5.0	0.65	ug/L		11/09/11 11:49	11/11/11 18:17	1
Sodium	89000		2000	280	ug/L		11/09/11 11:49	11/11/11 18:17	1

Client Sample ID: OC-SW-ISC02

Lab Sample ID: 360-37491-2

Date Collected: 11/08/11 11:45

Matrix: Water

Date Received: 11/08/11 17:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4000		100	13	ug/L		11/09/11 11:49	11/11/11 18:20	1
Chromium	750		5.0	0.65	ug/L		11/09/11 11:49	11/11/11 18:20	1
Sodium	84000		2000	280	ug/L		11/09/11 11:49	11/11/11 18:20	1

Client Sample ID: OC-SW-ISC03

Lab Sample ID: 360-37491-3

Date Collected: 11/08/11 11:30

Matrix: Water

Date Received: 11/08/11 17:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	200		100	13	ug/L		11/09/11 11:49	11/11/11 18:23	1
Chromium	2.0 J		5.0	0.65	ug/L		11/09/11 11:49	11/11/11 18:23	1
Sodium	93000		2000	280	ug/L		11/09/11 11:49	11/11/11 18:23	1

Client Sample ID: OC-SW-PZ16RR

Lab Sample ID: 360-37491-4

Date Collected: 11/08/11 11:55

Matrix: Water

Date Received: 11/08/11 17:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1800		100	13	ug/L		11/09/11 11:49	11/11/11 18:26	1
Chromium	380		5.0	0.65	ug/L		11/09/11 11:49	11/11/11 18:26	1
Sodium	110000		2000	280	ug/L		11/09/11 11:49	11/11/11 18:26	1

Client Sample ID: OC-SW-PZ17RR

Lab Sample ID: 360-37491-5

Date Collected: 11/08/11 12:10

Matrix: Water

Date Received: 11/08/11 17:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	2000		100	13	ug/L		11/09/11 11:49	11/11/11 18:29	1
Chromium	470		5.0	0.65	ug/L		11/09/11 11:49	11/11/11 18:29	1
Sodium	120000		2000	280	ug/L		11/09/11 11:49	11/11/11 18:29	1

Client Sample ID: OC-SW-PZ18R

Lab Sample ID: 360-37491-6

Date Collected: 11/08/11 12:30

Matrix: Water

Date Received: 11/08/11 17:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	270		100	13	ug/L		11/09/11 11:49	11/11/11 17:57	1
Chromium	22		5.0	0.65	ug/L		11/09/11 11:49	11/11/11 17:57	1
Sodium	88000		2000	280	ug/L		11/09/11 11:49	11/11/11 17:57	1

Client Sample Results

Client: Olin Corporation

Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Method: 6010B - Total Metals

Client Sample ID: OC-SW-SD17

Date Collected: 11/08/11 12:20

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	2100		100	13	ug/L		11/10/11 08:48	11/14/11 15:00	1
Chromium	470		5.0	0.65	ug/L		11/10/11 08:48	11/14/11 15:00	1
Sodium	120000	B	2000	280	ug/L		11/10/11 08:48	11/14/11 15:00	1

Client Sample ID: OC-SW-PZ18R-DUP

Date Collected: 11/08/11 12:30

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	260		100	13	ug/L		11/10/11 08:48	11/14/11 14:52	1
Chromium	21		5.0	0.65	ug/L		11/10/11 08:48	11/14/11 14:52	1
Sodium	83000	B	2000	280	ug/L		11/10/11 08:48	11/14/11 14:52	1

Client Sample Results

Client: Olin Corporation

Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

General Chemistry

Client Sample ID: OC-SW-ISC01

Date Collected: 11/08/11 12:45

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-1

Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.20		0.050	0.050	mg/L			11/10/11 00:24	1
Sulfate	110		20	20	mg/L			11/10/11 00:37	10
Chloride	120		10	10	mg/L			11/10/11 00:37	10
Nitrite as N	ND		0.010	0.010	mg/L			11/10/11 00:24	1
Ammonia	25		1.0	1.0	mg/L	11/15/11 14:32	11/16/11 15:18	10	
Specific Conductance	760		1.0	1.0	umhos/cm			11/12/11 09:52	1

Client Sample ID: OC-SW-ISC02

Date Collected: 11/08/11 11:45

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-2

Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	1.1		0.050	0.050	mg/L			11/09/11 20:36	1
Sulfate	180		20	20	mg/L			11/09/11 20:52	10
Chloride	97		10	10	mg/L			11/09/11 20:52	10
Nitrite as N	ND		0.010	0.010	mg/L			11/09/11 20:36	1
Ammonia	33		1.0	1.0	mg/L	11/15/11 14:32	11/16/11 15:19	10	
Specific Conductance	860		1.0	1.0	umhos/cm			11/12/11 09:53	1

Client Sample ID: OC-SW-ISC03

Date Collected: 11/08/11 11:30

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-3

Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	1.0		0.050	0.050	mg/L			11/09/11 20:03	1
Sulfate	33		2.0	2.0	mg/L			11/09/11 20:02	1
Chloride	170		10	10	mg/L			11/09/11 20:20	10
Nitrite as N	ND		0.10	0.10	mg/L			11/09/11 20:20	10
Ammonia	1.7		0.10	0.10	mg/L	11/15/11 14:32	11/16/11 14:57	1	
Specific Conductance	740		1.0	1.0	umhos/cm			11/12/11 09:54	1

Client Sample ID: OC-SW-PZ16RR

Date Collected: 11/08/11 11:55

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-4

Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	1.8		0.050	0.050	mg/L			11/09/11 21:08	1
Sulfate	160		20	20	mg/L			11/09/11 21:24	10
Chloride	120		10	10	mg/L			11/09/11 21:24	10
Nitrite as N	ND		0.10	0.10	mg/L			11/09/11 21:24	10
Ammonia	31		1.0	1.0	mg/L	11/15/11 14:32	11/16/11 15:20	10	
Specific Conductance	950		1.0	1.0	umhos/cm			11/12/11 09:56	1

Client Sample ID: OC-SW-PZ17RR

Date Collected: 11/08/11 12:10

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-5

Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	1.8		0.050	0.050	mg/L			11/09/11 22:44	1

Client Sample Results

Client: Olin Corporation
Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

General Chemistry (Continued)

Client Sample ID: OC-SW-PZ17RR

Date Collected: 11/08/11 12:10

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-5

Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	180		20	20	mg/L			11/09/11 23:01	10
Chloride	130		10	10	mg/L			11/09/11 23:01	10
Nitrite as N	ND		0.10	0.10	mg/L			11/09/11 23:01	10
Ammonia	33		1.0	1.0	mg/L	11/15/11 14:32		11/16/11 15:21	10
Specific Conductance	1000		1.0	1.0	umhos/cm			11/12/11 09:57	1

Client Sample ID: OC-SW-PZ18R

Date Collected: 11/08/11 12:30

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-6

Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.20		0.050	0.050	mg/L			11/09/11 23:17	1
Sulfate	120		20	20	mg/L			11/09/11 23:33	10
Chloride	120		10	10	mg/L			11/09/11 23:33	10
Nitrite as N	ND		0.010	0.010	mg/L			11/09/11 23:17	1
Ammonia	30		1.0	1.0	mg/L	11/15/11 14:32		11/16/11 15:15	10
Specific Conductance	780		1.0	1.0	umhos/cm			11/12/11 10:03	1

Client Sample ID: OC-SW-SD17

Date Collected: 11/08/11 12:20

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-7

Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	1.7		0.050	0.050	mg/L			11/10/11 00:53	1
Sulfate	190		20	20	mg/L			11/10/11 01:09	10
Chloride	130		10	10	mg/L			11/10/11 01:09	10
Nitrite as N	ND		0.010	0.010	mg/L			11/10/11 00:53	1
Ammonia	32		1.0	1.0	mg/L	11/15/11 14:32		11/16/11 15:22	10
Specific Conductance	1000		1.0	1.0	umhos/cm			11/12/11 10:06	1

Client Sample ID: OC-SW-PZ18R-DUP

Date Collected: 11/08/11 12:30

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-8

Matrix: Water

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.20		0.050	0.050	mg/L			11/10/11 02:30	1
Sulfate	110		20	20	mg/L			11/10/11 02:46	10
Chloride	120		10	10	mg/L			11/10/11 02:46	10
Nitrite as N	ND		0.010	0.010	mg/L			11/10/11 02:30	1
Ammonia	29		1.0	1.0	mg/L	11/15/11 14:32		11/16/11 15:25	10
Specific Conductance	780		1.0	1.0	umhos/cm			11/12/11 10:08	1

Definitions/Glossary

Client: Olin Corporation

TestAmerica Job ID: 360-37491-1

Project/Site: Olin Chemical Surfacewater

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

☒	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: Olin Corporation

Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Metals

Prep Batch: 83100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-37491-1	OC-SW-ISC01	Total/NA	Water	3010A	5
360-37491-2	OC-SW-ISC02	Total/NA	Water	3010A	5
360-37491-3	OC-SW-ISC03	Total/NA	Water	3010A	5
360-37491-4	OC-SW-PZ16RR	Total/NA	Water	3010A	6
360-37491-5	OC-SW-PZ17RR	Total/NA	Water	3010A	7
360-37491-6	OC-SW-PZ18R	Total/NA	Water	3010A	7
360-37491-6MS	OC-SW-PZ18R	Total/NA	Water	3010A	8
360-37491-6MSD	OC-SW-PZ18R	Total/NA	Water	3010A	8
LCS 360-83100/2-A	Lab Control Sample	Total/NA	Water	3010A	9
LCSD 360-83100/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	9
MB 360-83100/1-A	Method Blank	Total/NA	Water	3010A	10

Prep Batch: 83163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-37491-7	OC-SW-SD17	Total/NA	Water	3010A	11
360-37491-8	OC-SW-PZ18R-DUP	Total/NA	Water	3010A	12
LCS 360-83163/2-A	Lab Control Sample	Total/NA	Water	3010A	12
LCSD 360-83163/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	13
MB 360-83163/1-A	Method Blank	Total/NA	Water	3010A	13

Analysis Batch: 83303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-37491-1	OC-SW-ISC01	Total/NA	Water	6010B	83100
360-37491-2	OC-SW-ISC02	Total/NA	Water	6010B	83100
360-37491-3	OC-SW-ISC03	Total/NA	Water	6010B	83100
360-37491-4	OC-SW-PZ16RR	Total/NA	Water	6010B	83100
360-37491-5	OC-SW-PZ17RR	Total/NA	Water	6010B	83100
360-37491-6	OC-SW-PZ18R	Total/NA	Water	6010B	83100
360-37491-6MS	OC-SW-PZ18R	Total/NA	Water	6010B	83100
360-37491-6MSD	OC-SW-PZ18R	Total/NA	Water	6010B	83100
LCS 360-83100/2-A	Lab Control Sample	Total/NA	Water	6010B	83100
LCSD 360-83100/3-A	Lab Control Sample Dup	Total/NA	Water	6010B	83100
MB 360-83100/1-A	Method Blank	Total/NA	Water	6010B	83100

Analysis Batch: 83365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-37491-7	OC-SW-SD17	Total/NA	Water	6010B	83163
360-37491-8	OC-SW-PZ18R-DUP	Total/NA	Water	6010B	83163
LCS 360-83163/2-A	Lab Control Sample	Total/NA	Water	6010B	83163
LCSD 360-83163/3-A	Lab Control Sample Dup	Total/NA	Water	6010B	83163
MB 360-83163/1-A	Method Blank	Total/NA	Water	6010B	83163

Analysis Batch: 83420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-37491-1	OC-SW-ISC01	Dissolved	Water	6010B	
360-37491-2	OC-SW-ISC02	Dissolved	Water	6010B	
360-37491-3	OC-SW-ISC03	Dissolved	Water	6010B	
360-37491-4	OC-SW-PZ16RR	Dissolved	Water	6010B	
360-37491-5	OC-SW-PZ17RR	Dissolved	Water	6010B	
360-37491-6	OC-SW-PZ18R	Dissolved	Water	6010B	
360-37491-6MS	OC-SW-PZ18R	Dissolved	Water	6010B	
360-37491-6MSD	OC-SW-PZ18R	Dissolved	Water	6010B	

QC Association Summary

Client: Olin Corporation
Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Metals (Continued)

Analysis Batch: 83420 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-37491-7	OC-SW-SD17	Dissolved	Water	6010B	
360-37491-8	OC-SW-PZ18R-DUP	Dissolved	Water	6010B	
LCS 360-83420/1	Lab Control Sample	Total/NA	Water	6010B	
LCSD 360-83420/6	Lab Control Sample Dup	Total/NA	Water	6010B	
MB 360-83420/2	Method Blank	Total/NA	Water	6010B	

General Chemistry

Analysis Batch: 83244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-37491-1	OC-SW-ISC01	Total/NA	Water	300.0	
360-37491-2	OC-SW-ISC02	Total/NA	Water	300.0	
360-37491-3	OC-SW-ISC03	Total/NA	Water	300.0	
360-37491-3	OC-SW-ISC03	Total/NA	Water	300.0	
360-37491-4	OC-SW-PZ16RR	Total/NA	Water	300.0	
360-37491-5	OC-SW-PZ17RR	Total/NA	Water	300.0	
360-37491-6	OC-SW-PZ18R	Total/NA	Water	300.0	
360-37491-6MS	OC-SW-PZ18R	Total/NA	Water	300.0	
360-37491-6MSD	OC-SW-PZ18R	Total/NA	Water	300.0	
360-37491-7	OC-SW-SD17	Total/NA	Water	300.0	
LCS 360-83244/4	Lab Control Sample	Total/NA	Water	300.0	
MB 360-83244/3	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 83246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-37491-8	OC-SW-PZ18R-DUP	Total/NA	Water	300.0	
LCS 360-83246/6	Lab Control Sample	Total/NA	Water	300.0	
MB 360-83246/5	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 83283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-37491-1	OC-SW-ISC01	Total/NA	Water	SM 2510B	
360-37491-2	OC-SW-ISC02	Total/NA	Water	SM 2510B	
360-37491-3	OC-SW-ISC03	Total/NA	Water	SM 2510B	
360-37491-4	OC-SW-PZ16RR	Total/NA	Water	SM 2510B	
360-37491-5	OC-SW-PZ17RR	Total/NA	Water	SM 2510B	
360-37491-6	OC-SW-PZ18R	Total/NA	Water	SM 2510B	
360-37491-6 DU	OC-SW-PZ18R	Total/NA	Water	SM 2510B	
360-37491-7	OC-SW-SD17	Total/NA	Water	SM 2510B	
360-37491-8	OC-SW-PZ18R-DUP	Total/NA	Water	SM 2510B	
LCS 360-83283/1	Lab Control Sample	Total/NA	Water	SM 2510B	
MB 360-83283/3	Method Blank	Total/NA	Water	SM 2510B	

Analysis Batch: 83371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-37491-1	OC-SW-ISC01	Total/NA	Water	300.0	
360-37491-2	OC-SW-ISC02	Total/NA	Water	300.0	
360-37491-3	OC-SW-ISC03	Total/NA	Water	300.0	
360-37491-3	OC-SW-ISC03	Total/NA	Water	300.0	
360-37491-4	OC-SW-PZ16RR	Total/NA	Water	300.0	
360-37491-4	OC-SW-PZ16RR	Total/NA	Water	300.0	
360-37491-5	OC-SW-PZ17RR	Total/NA	Water	300.0	

QC Association Summary

Client: Olin Corporation

Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

General Chemistry (Continued)

Analysis Batch: 83371 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-37491-5	OC-SW-PZ17RR	Total/NA	Water	300.0	
360-37491-6	OC-SW-PZ18R	Total/NA	Water	300.0	
360-37491-6MS	OC-SW-PZ18R-MS	Total/NA	Water	300.0	
360-37491-6MSD	OC-SW-PZ18R-MSD	Total/NA	Water	300.0	
360-37491-7	OC-SW-SD17	Total/NA	Water	300.0	
LCS 360-83371/4	Lab Control Sample	Total/NA	Water	300.0	
MB 360-83371/3	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 83384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-37491-8	OC-SW-PZ18R-DUP	Total/NA	Water	300.0	
LCS 360-83384/6	Lab Control Sample	Total/NA	Water	300.0	
MB 360-83384/5	Method Blank	Total/NA	Water	300.0	

Prep Batch: 83401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-37491-1	OC-SW-ISC01	Total/NA	Water	Distill/Ammonia	
360-37491-2	OC-SW-ISC02	Total/NA	Water	Distill/Ammonia	
360-37491-3	OC-SW-ISC03	Total/NA	Water	Distill/Ammonia	
360-37491-4	OC-SW-PZ16RR	Total/NA	Water	Distill/Ammonia	
360-37491-5	OC-SW-PZ17RR	Total/NA	Water	Distill/Ammonia	
360-37491-6	OC-SW-PZ18R	Total/NA	Water	Distill/Ammonia	
360-37491-6MS	OC-SW-PZ18R	Total/NA	Water	Distill/Ammonia	
360-37491-6MSD	OC-SW-PZ18R	Total/NA	Water	Distill/Ammonia	
360-37491-7	OC-SW-SD17	Total/NA	Water	Distill/Ammonia	
360-37491-8	OC-SW-PZ18R-DUP	Total/NA	Water	Distill/Ammonia	
LCS 360-83401/2-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
MB 360-83401/1-A	Method Blank	Total/NA	Water	Distill/Ammonia	

Analysis Batch: 83489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-37491-1	OC-SW-ISC01	Total/NA	Water	L107-06-1B	83401
360-37491-2	OC-SW-ISC02	Total/NA	Water	L107-06-1B	83401
360-37491-3	OC-SW-ISC03	Total/NA	Water	L107-06-1B	83401
360-37491-4	OC-SW-PZ16RR	Total/NA	Water	L107-06-1B	83401
360-37491-5	OC-SW-PZ17RR	Total/NA	Water	L107-06-1B	83401
360-37491-6	OC-SW-PZ18R	Total/NA	Water	L107-06-1B	83401
360-37491-6MS	OC-SW-PZ18R	Total/NA	Water	L107-06-1B	83401
360-37491-6MSD	OC-SW-PZ18R	Total/NA	Water	L107-06-1B	83401
360-37491-7	OC-SW-SD17	Total/NA	Water	L107-06-1B	83401
360-37491-8	OC-SW-PZ18R-DUP	Total/NA	Water	L107-06-1B	83401
LCS 360-83401/2-A	Lab Control Sample	Total/NA	Water	L107-06-1B	83401
MB 360-83401/1-A	Method Blank	Total/NA	Water	L107-06-1B	83401

QC Sample Results

Client: Olin Corporation
Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Method: 6010B - Total Metals

Lab Sample ID: MB 360-83100/1-A

Matrix: Water

Analysis Batch: 83303

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 83100

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
Aluminum	ND				100	13	ug/L		11/09/11 11:49	11/11/11 17:48	1
Chromium	ND				5.0	0.65	ug/L		11/09/11 11:49	11/11/11 17:48	1
Sodium	ND				2000	280	ug/L		11/09/11 11:49	11/11/11 17:48	1

Lab Sample ID: LCS 360-83100/2-A

Matrix: Water

Analysis Batch: 83303

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 83100

Analyte	Spike	LCS			Unit	D	%Rec.	Limits
		Added	Result	Qualifier				
Aluminum		5000	5620		ug/L		112	80 - 120
Chromium		1000	1120		ug/L		112	80 - 120
Sodium		20000	20000		ug/L		100	80 - 120

Lab Sample ID: LCSD 360-83100/3-A

Matrix: Water

Analysis Batch: 83303

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 83100

Analyte	Spike	LCSD			Unit	D	%Rec.	RPD	Limit
		Added	Result	Qualifier					
Aluminum		5000	5820		ug/L		116	80 - 120	4
Chromium		1000	1150		ug/L		115	80 - 120	3
Sodium		20000	21400		ug/L		107	80 - 120	7

Lab Sample ID: 360-37491-6MS

Matrix: Water

Analysis Batch: 83303

Client Sample ID: OC-SW-PZ18R

Prep Type: Total/NA

Prep Batch: 83100

Analyte	Sample	Sample	Spike	MS			Unit	D	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Aluminum	270		5000	6080			ug/L		116	75 - 125
Chromium	22		1000	1170			ug/L		115	75 - 125
Sodium	88000		20000	107000	4		ug/L		90	75 - 125

Lab Sample ID: 360-37491-6MSD

Matrix: Water

Analysis Batch: 83303

Client Sample ID: OC-SW-PZ18R

Prep Type: Total/NA

Prep Batch: 83100

Analyte	Sample	Sample	Spike	MSD			Unit	D	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Aluminum	270		5000	5940			ug/L		113	75 - 125
Chromium	22		1000	1140			ug/L		111	75 - 125
Sodium	88000		20000	105000	4		ug/L		84	75 - 125

Lab Sample ID: MB 360-83163/1-A

Matrix: Water

Analysis Batch: 83365

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 83163

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
Aluminum	ND				100	13	ug/L		11/10/11 08:48	11/14/11 14:28	1
Chromium	ND				5.0	0.65	ug/L		11/10/11 08:48	11/14/11 14:28	1
Sodium	391	J			2000	280	ug/L		11/10/11 08:48	11/14/11 14:28	1

QC Sample Results

Client: Olin Corporation

Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Method: 6010B - Total Metals (Continued)

Lab Sample ID: LCS 360-83163/2-A

Matrix: Water

Analysis Batch: 83365

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 83163

Analyte	Spike Added	LCS		Unit	D	%Rec.		Limits
		Result	Qualifier			%Rec	Limits	
Aluminum	5000	5640		ug/L		113	80 - 120	
Chromium	1000	1100		ug/L		110	80 - 120	
Sodium	20000	20700		ug/L		103	80 - 120	

Lab Sample ID: LCSD 360-83163/3-A

Matrix: Water

Analysis Batch: 83365

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 83163

Analyte	Spike Added	LCSD		Unit	D	%Rec.		RPD	Limit
		Result	Qualifier			%Rec	Limits		
Aluminum	5000	5440		ug/L		109	80 - 120	4	20
Chromium	1000	1060		ug/L		106	80 - 120	4	20
Sodium	20000	20300		ug/L		101	80 - 120	2	20

Method: 6010B - Dissolved Metals

Lab Sample ID: MB 360-83420/2

Matrix: Water

Analysis Batch: 83420

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL		Unit	D	Prepared	Analyzed	Dil Fac
				MDL	Unit					
Aluminum	ND		100	13	ug/L				11/15/11 16:24	1
Chromium	ND		5.0	0.65	ug/L				11/15/11 16:24	1
Sodium	ND		2000	280	ug/L				11/15/11 16:24	1

Lab Sample ID: LCS 360-83420/1

Matrix: Water

Analysis Batch: 83420

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec.		Limits
		Result	Qualifier			%Rec	Limits	
Aluminum	5000	5210		ug/L		104	80 - 120	
Chromium	1000	1000		ug/L		100	80 - 120	
Sodium	20000	19500		ug/L		98	80 - 120	

Lab Sample ID: LCSD 360-83420/6

Matrix: Water

Analysis Batch: 83420

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD		Unit	D	%Rec.		RPD	Limit
		Result	Qualifier			%Rec	Limits		
Aluminum	5000	5190		ug/L		104	80 - 120	0	20
Chromium	1000	999		ug/L		100	80 - 120	0	20
Sodium	20000	19300		ug/L		96	80 - 120	1	20

Lab Sample ID: 360-37491-6MS

Matrix: Water

Analysis Batch: 83420

Client Sample ID: OC-SW-PZ18R

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec.		Limits
				Result	Qualifier			%Rec	Limits	
Aluminum	170		5000	5420		ug/L		105	75 - 125	
Chromium	14		1000	1020		ug/L		100	75 - 125	
Sodium	96000		20000	113000	4	ug/L		86	75 - 125	

QC Sample Results

Client: Olin Corporation

TestAmerica Job ID: 360-37491-1

Project/Site: Olin Chemical Surfacewater

Method: 6010B - Dissolved Metals (Continued)

Lab Sample ID: 360-37491-6MSD

Matrix: Water

Analysis Batch: 83420

Client Sample ID: OC-SW-PZ18R

Prep Type: Dissolved

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier			%Rec		
Aluminum	170		5000	5420		ug/L		105	75 - 125	0 20
Chromium	14		1000	1020		ug/L		100	75 - 125	0 20
Sodium	96000		20000	113000	4	ug/L		85	75 - 125	0 20

Method: 300.0 - Nitrate & Nitrite

Lab Sample ID: MB 360-83371/3

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 83371

Analyte	MB	MB	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Nitrate as N	ND		0.050	0.050	mg/L			11/09/11 18:59	1
Nitrite as N	ND		0.010	0.010	mg/L			11/09/11 18:59	1

Lab Sample ID: LCS 360-83371/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 83371

Analyte	MB	MB	Spike	LCS	LCS	Unit	D	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier			%Rec	
Nitrate as N	ND		4.00	3.84		mg/L		96	85 - 115
Nitrite as N	ND		4.00	4.04		mg/L		101	85 - 115

Lab Sample ID: 360-37491-6MS

Client Sample ID: OC-SW-PZ18R-MS

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 83371

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier			%Rec	
Nitrate as N	ND		10.0	10.6		mg/L		106	75 - 125
Nitrite as N	ND		10.0	10.5		mg/L		105	75 - 125

Lab Sample ID: 360-37491-6MSD

Client Sample ID: OC-SW-PZ18R-MSD

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 83371

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier			%Rec		
Nitrate as N	ND		10.0	10.7		mg/L		107	75 - 125	1 20
Nitrite as N	ND		10.0	10.5		mg/L		105	75 - 125	0 20

Lab Sample ID: MB 360-83384/5

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 83384

Analyte	MB	MB	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Nitrate as N	ND		0.050	0.050	mg/L			11/10/11 01:58	1
Nitrite as N	ND		0.010	0.010	mg/L			11/10/11 01:58	1

QC Sample Results

Client: Olin Corporation
Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Method: 300.0 - Nitrate & Nitrite (Continued)

Lab Sample ID: LCS 360-83384/6

Matrix: Water

Analysis Batch: 83384

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec.	
		Result	Qualifier			%Rec	Limits
Nitrate as N	4.00	3.90		mg/L	98	85 - 115	
Nitrite as N	4.00	4.08		mg/L	102	85 - 115	

Method: 300.0 - Chloride & Sulfate

Lab Sample ID: MB 360-83244/3

Matrix: Water

Analysis Batch: 83244

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL		D	Prepared	Analyzed	Dil Fac
				Unit	Dilution				
Sulfate	ND		2.0	2.0	mg/L			11/09/11 18:59	1
Chloride	ND		1.0	1.0	mg/L			11/09/11 18:59	1

Lab Sample ID: LCS 360-83244/4

Matrix: Water

Analysis Batch: 83244

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec.	
		Result	Qualifier			%Rec	Limits
Sulfate	80.0	81.1		mg/L	101	85 - 115	
Chloride	40.0	40.7		mg/L	102	85 - 115	

Lab Sample ID: 360-37491-6MS

Matrix: Water

Analysis Batch: 83244

Client Sample ID: OC-SW-PZ18R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec.	
				Result	Qualifier			%Rec	Limits
Sulfate	120		200	349		mg/L	117	75 - 125	
Chloride	120		100	239		mg/L	114	75 - 125	

Lab Sample ID: 360-37491-6MSD

Matrix: Water

Analysis Batch: 83244

Client Sample ID: OC-SW-PZ18R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec.	
				Result	Qualifier			%Rec	Limits
Sulfate	120		200	349		mg/L	117	75 - 125	0
Chloride	120		100	239		mg/L	115	75 - 125	0

Lab Sample ID: MB 360-83246/5

Matrix: Water

Analysis Batch: 83244

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL		D	Prepared	Analyzed	Dil Fac
				Unit	Dilution				
Sulfate	ND		2.0	2.0	mg/L			11/10/11 01:58	1
Chloride	ND		1.0	1.0	mg/L			11/10/11 01:58	1

Lab Sample ID: LCS 360-83246/6

Matrix: Water

Analysis Batch: 83246

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec.	
		Result	Qualifier			%Rec	Limits
Sulfate	80.0	81.6		mg/L	102	85 - 115	

QC Sample Results

Client: Olin Corporation
Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Method: 300.0 - Chloride & Sulfate (Continued)

Lab Sample ID: LCS 360-83246/6

Matrix: Water

Analysis Batch: 83246

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec.	Limits
		Result	Qualifier			%Rec	
Chloride	40.0	40.9		mg/L	102	85 - 115	

Method: L107-06-1B - Nitrogen Ammonia

Lab Sample ID: MB 360-83401/1-A

Matrix: Water

Analysis Batch: 83409

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 83401

Analyte	MB	MB	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier					Prepared	Analyzed	Dil Fac
Ammonia	ND		0.10	0.10	mg/L	11/15/11 14:32	11/16/11 14:50		1

Lab Sample ID: LCS 360-83401/2-A

Matrix: Water

Analysis Batch: 83489

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 83401

Analyte	Spike	LCS	LCS	Unit	D	%Rec.	Limits
	Added	Result	Qualifier			%Rec	
Ammonia	10.0	10.4		mg/L	104	90 - 110	

Lab Sample ID: 360-37491-6MS

Matrix: Water

Analysis Batch: 83489

Client Sample ID: OC-SW-PZ18R
Prep Type: Total/NA
Prep Batch: 83401

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier			%Rec	
Ammonia	30		10.0	41.5	F	mg/L	119	90 - 110	

Lab Sample ID: 360-37491-6MSD

Matrix: Water

Analysis Batch: 83489

Client Sample ID: OC-SW-PZ18R
Prep Type: Total/NA
Prep Batch: 83401

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier			%Rec		
Ammonia	30		10.0	41.2	F	mg/L	116	90 - 110	1	20

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 360-83283/3

Matrix: Water

Analysis Batch: 83283

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier					Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm	11/12/11 09:43			1

Lab Sample ID: LCS 360-83283/1

Matrix: Water

Analysis Batch: 83283

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec.	Limits
	Added	Result	Qualifier			%Rec	
Specific Conductance	1410	1410		umhos/cm	100	85 - 115	

QC Sample Results

Client: Olin Corporation

Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Method: SM 2510B - Conductivity, Specific Conductance (Continued)

Lab Sample ID: 360-37491-6 DU

Matrix: Water

Analysis Batch: 83283

Client Sample ID: OC-SW-PZ18R

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Specific Conductance	780		774		umhos/cm		0.1	20

Lab Chronicle

Client: Olin Corporation
Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Client Sample ID: OC-SW-ISC01

Lab Sample ID: 360-37491-1

Matrix: Water

Date Collected: 11/08/11 12:45

Date Received: 11/08/11 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			83100	11/09/11 11:49	OG	TAL WFD
Total/NA	Analysis	6010B		1	83303	11/11/11 18:17	TJS	TAL WFD
Dissolved	Analysis	6010B		1	83420	11/15/11 17:05	TJS	TAL WFD
Total/NA	Analysis	300.0		10	83244	11/10/11 00:37	RWE	TAL WFD
Total/NA	Analysis	SM 2510B		1	83283	11/12/11 09:52	AMS	TAL WFD
Total/NA	Analysis	300.0		1	83371	11/10/11 00:24	RWE	TAL WFD
Total/NA	Prep	Distill/Ammonia			83401	11/15/11 14:32	RWE	TAL WFD
Total/NA	Analysis	L107-06-1B		10	83489	11/16/11 15:18	RWE	TAL WFD

Client Sample ID: OC-SW-ISC02

Lab Sample ID: 360-37491-2

Matrix: Water

Date Collected: 11/08/11 11:45

Date Received: 11/08/11 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			83100	11/09/11 11:49	OG	TAL WFD
Total/NA	Analysis	6010B		1	83303	11/11/11 18:20	TJS	TAL WFD
Dissolved	Analysis	6010B		1	83420	11/15/11 17:08	TJS	TAL WFD
Total/NA	Analysis	300.0		10	83244	11/09/11 20:52	RWE	TAL WFD
Total/NA	Analysis	SM 2510B		1	83283	11/12/11 09:53	AMS	TAL WFD
Total/NA	Analysis	300.0		1	83371	11/09/11 20:36	RWE	TAL WFD
Total/NA	Prep	Distill/Ammonia			83401	11/15/11 14:32	RWE	TAL WFD
Total/NA	Analysis	L107-06-1B		10	83489	11/16/11 15:19	RWE	TAL WFD

Client Sample ID: OC-SW-ISC03

Lab Sample ID: 360-37491-3

Matrix: Water

Date Collected: 11/08/11 11:30

Date Received: 11/08/11 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			83100	11/09/11 11:49	OG	TAL WFD
Total/NA	Analysis	6010B		1	83303	11/11/11 18:23	TJS	TAL WFD
Dissolved	Analysis	6010B		1	83420	11/15/11 17:11	TJS	TAL WFD
Total/NA	Analysis	300.0		1	83244	11/09/11 20:02	RWE	TAL WFD
Total/NA	Analysis	300.0		10	83244	11/09/11 20:20	RWE	TAL WFD
Total/NA	Analysis	SM 2510B		1	83283	11/12/11 09:54	AMS	TAL WFD
Total/NA	Analysis	300.0		1	83371	11/09/11 20:03	RWE	TAL WFD
Total/NA	Analysis	300.0		10	83371	11/09/11 20:20	RWE	TAL WFD
Total/NA	Prep	Distill/Ammonia			83401	11/15/11 14:32	RWE	TAL WFD
Total/NA	Analysis	L107-06-1B		1	83489	11/16/11 14:57	RWE	TAL WFD

Lab Chronicle

Client: Olin Corporation
Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Client Sample ID: OC-SW-PZ16RR

Date Collected: 11/08/11 11:55

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			83100	11/09/11 11:49	OG	TAL WFD
Total/NA	Analysis	6010B		1	83303	11/11/11 18:26	TJS	TAL WFD
Dissolved	Analysis	6010B		1	83420	11/15/11 17:18	TJS	TAL WFD
Total/NA	Analysis	300.0		10	83244	11/09/11 21:24	RWE	TAL WFD
Total/NA	Analysis	SM 2510B		1	83283	11/12/11 09:56	AMS	TAL WFD
Total/NA	Analysis	300.0		10	83371	11/09/11 21:24	RWE	TAL WFD
Total/NA	Analysis	300.0		1	83371	11/09/11 21:08	RWE	TAL WFD
Total/NA	Prep	Distill/Ammonia			83401	11/15/11 14:32	RWE	TAL WFD
Total/NA	Analysis	L107-06-1B		10	83489	11/16/11 15:20	RWE	TAL WFD

Client Sample ID: OC-SW-PZ17RR

Date Collected: 11/08/11 12:10

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			83100	11/09/11 11:49	OG	TAL WFD
Total/NA	Analysis	6010B		1	83303	11/11/11 18:29	TJS	TAL WFD
Dissolved	Analysis	6010B		1	83420	11/15/11 17:21	TJS	TAL WFD
Total/NA	Analysis	300.0		10	83244	11/09/11 23:01	RWE	TAL WFD
Total/NA	Analysis	SM 2510B		1	83283	11/12/11 09:57	AMS	TAL WFD
Total/NA	Analysis	300.0		1	83371	11/09/11 22:44	RWE	TAL WFD
Total/NA	Analysis	300.0		10	83371	11/09/11 23:01	RWE	TAL WFD
Total/NA	Prep	Distill/Ammonia			83401	11/15/11 14:32	RWE	TAL WFD
Total/NA	Analysis	L107-06-1B		10	83489	11/16/11 15:21	RWE	TAL WFD

Client Sample ID: OC-SW-PZ18R

Date Collected: 11/08/11 12:30

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			83100	11/09/11 11:49	OG	TAL WFD
Total/NA	Analysis	6010B		1	83303	11/11/11 17:57	TJS	TAL WFD
Dissolved	Analysis	6010B		1	83420	11/15/11 16:47	TJS	TAL WFD
Total/NA	Analysis	300.0		10	83244	11/09/11 23:33	RWE	TAL WFD
Total/NA	Analysis	SM 2510B		1	83283	11/12/11 10:03	AMS	TAL WFD
Total/NA	Analysis	300.0		1	83371	11/09/11 23:17	RWE	TAL WFD
Total/NA	Prep	Distill/Ammonia			83401	11/15/11 14:32	RWE	TAL WFD
Total/NA	Analysis	L107-06-1B		10	83489	11/16/11 15:15	RWE	TAL WFD

Lab Chronicle

Client: Olin Corporation
Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Client Sample ID: OC-SW-SD17

Date Collected: 11/08/11 12:20

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			83163	11/10/11 08:48	OG	TAL WFD
Total/NA	Analysis	6010B		1	83365	11/14/11 15:00	TJS	TAL WFD
Dissolved	Analysis	6010B		1	83420	11/15/11 17:24	TJS	TAL WFD
Total/NA	Analysis	300.0		10	83244	11/10/11 01:09	RWE	TAL WFD
Total/NA	Analysis	SM 2510B		1	83283	11/12/11 10:06	AMS	TAL WFD
Total/NA	Analysis	300.0		1	83371	11/10/11 00:53	RWE	TAL WFD
Total/NA	Prep	Distill/Ammonia			83401	11/15/11 14:32	RWE	TAL WFD
Total/NA	Analysis	L107-06-1B		10	83489	11/16/11 15:22	RWE	TAL WFD

Client Sample ID: OC-SW-PZ18R-DUP

Date Collected: 11/08/11 12:30

Date Received: 11/08/11 17:10

Lab Sample ID: 360-37491-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			83163	11/10/11 08:48	OG	TAL WFD
Total/NA	Analysis	6010B		1	83365	11/14/11 14:52	TJS	TAL WFD
Dissolved	Analysis	6010B		1	83420	11/15/11 17:26	TJS	TAL WFD
Total/NA	Analysis	300.0		10	83246	11/10/11 02:46	RWE	TAL WFD
Total/NA	Analysis	SM 2510B		1	83283	11/12/11 10:08	AMS	TAL WFD
Total/NA	Analysis	300.0		1	83384	11/10/11 02:30	RWE	TAL WFD
Total/NA	Prep	Distill/Ammonia			83401	11/15/11 14:32	RWE	TAL WFD
Total/NA	Analysis	L107-06-1B		10	83489	11/16/11 15:25	RWE	TAL WFD

Laboratory References:

TAL WFD = TestAmerica Westfield, Westfield Executive Park, 53 Southampton Road, Westfield, MA 01085, TEL (413)572-4000

Certification Summary

Client: Olin Corporation

Project/Site: Olin Chemical Surfacewater

TestAmerica Job ID: 360-37491-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Westfield	Connecticut	State Program	1	PH-0494
TestAmerica Westfield	Maine	State Program	1	MA00014
TestAmerica Westfield	Massachusetts	State Program	1	M-MA014
TestAmerica Westfield	New Hampshire	NELAC	1	2539
TestAmerica Westfield	New York	NELAC	2	10843
TestAmerica Westfield	North Carolina	North Carolina DENR	4	647
TestAmerica Westfield	Rhode Island	State Program	1	LAO00057
TestAmerica Westfield	Vermont	State Program	1	VT-10843

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

State Accreditation Matrix

Method Name	Description	State where Primary Accreditation is Carried		
		New Hampshire (NELAC)	Mass	Conn
821-R-02-012	Toxicity, Acute (48-Hour)(list upon request)	NP		
SM 4500 CI F	Chlorine, Residual		NP	
SM 9215E	Heterotrophic Plate Count (SimPlate)		P	
SM 9222D	Coliforms, Fecal (Membrane Filter)		P/NP	
SM 9223	Coliforms, Total, and E.Coli (Colilert-P/A)		P	
SM 9224	Coliforms, Total, and E.Coli (Enumeration)		P	
1103.1	E.coli	ambient/ source		
Enterolert	Enterococcus			
200.8 Rev 5.4	Metals (ICP/MS) (list upon request)	NP/P	NP/P	
200.7 Rev 4.4	Metals (ICP)(list upon request)	NP/P	NP/P	
6010B	Metals (ICP)(list upon request)	NP/SW		
245.1	Mercury (CVAA)	NP/P	NP	
7470A	Mercury (CVAA)	NP		
7471A	Mercury (CVAA)	SW		
SM 2340B	Total Hardness (as CaCO ₃) by calculation	NP/P	NP	
3005A	Preparation, Total Recoverable or Dissolved Metals	NP/P		
3010A	Preparation, Total Metals	NP/P		
3020A	Preparation, Total Metals	NP/P/SW		
3050B	Preparation, Metals	SW		
504.1	EDB, DBCP and 1,2,3-TCP (GC)	P	P	
608	Organochlorine Pest/PCBs (list upon request)	NP	NP	
625	Semivolatile Org Comp (GC/MS)(list upon request)	NP	NP	
3546	Microwave Extraction	SW		
3510C	Liquid-Liquid Extraction (Separatory Funnel)	NP		
3550B	Ultrasonic Extraction	SW		
8081A	Organochlorine Pesticides (GC)(list upon request)	NP/SW		
8082	PCBs by Gas Chromatography(list upon request)	NP/SW		
8270C	Semivolatile Comp.(GC/MS)(list upon request)	NP/SW		
CT ETPH	Conn - Ext. Total petroleum Hydrocarbons (GC)		NP/SW	
MA-EPH	Mass - Extractable Petroleum Hydrocarbons (GC)			NP/SW
524.2	Volatile Org Comp (GC/MS)(list upon request)	P	P	
524.2	Trihalomethane compounds	P	P	
624	Volatile Org Comp (GC/MS)(list upon request)	NP	NP	
5035	Closed System Purge and Trap	SW		
5030B	Purge and Trap	NP		
8260B	Volatile Org Comp. (GC/MS)(list upon request)	NP/SW		
MAVPH	Mass - Volatile Petroleum Hydrocarbons (GC)			NP/SW
180.1	Turbidity, Nephelometric	P	P	
300	Anions, Ion Chromatography	NP/P	NP/P	
410.4	COD	NP	NP	
1010	Ignitability, Pensky-Martens Closed-Cup Method	SW		
10-107-06-2	Nitrogen, Total Kjeldahl	NP	NP	
7196A	Chromium, Hexavalent	NP/SW		
9012A	Cyanide, Total and/or Amenable	NP/SW		
9030B	Sulfide, Distillation (Acid Soluble and Insoluble)	NP		
9045C	pH	SW		
L107041C	Nitrogen, Nitrate	NP	P	
L107-06-1B	Nitrogen Ammonia	NP	NP	
L204001A CN	Cyanide, Total	P	NP/P	
L210-001A	Phenolics, Total Recoverable	NP	NP	
SM 2320B	Alkalinity	NP/P	NP/P	
SM 2510B	Conductivity, Specific Conductance	NP/P	NP/P	
SM 2540C	Solids, Total Dissolved (TDS)	NP/P	NP/P	
SM 2540D	Solids, Total Suspended (TSS)	NP	NP	
SM 3500 CR D	Chromium, Hexavalent	NP		
SM 4500 H+ B	pH	NP/P	NP/P	
SM 4500 NO2 B	Nitrogen, Nitrite	NP	P	
SM 4500 P E	Phosphorus, Orthophosphate	NP/P	NP	
SM 4500 P E	Phosphorus, Total	NP	NP	
SM 4500 S2 D	Sulfide, Total	NP		
SM 5210B	BOD, 5-Day	NP	NP	
SM 5310B	Organic Carbon, Total (TOC)	NP/P	NP	

Not all organic compounds are accredited under NELAC

For methods with multiple compounds all compounds may not meet NELAC criteria, listing should be obtained from the laboratory

The lab carries additional accreditations with several states. This is the laboratories typical listing but is subject to change based on the laboratories current certification standing.

Login Sample Receipt Checklist

Client: Olin Corporation

Job Number: 360-37491-1

Login Number: 37491

List Source: TestAmerica Westfield

List Number: 1

Creator: Ard, Vanessa L

Question	Answer	Comment	
Radioactivity either was not measured or, if measured, is at or below background	N/A		1
The cooler's custody seal, if present, is intact.	N/A		2
The cooler or samples do not appear to have been compromised or tampered with.	True		3
Samples were received on ice.	True		4
Cooler Temperature is acceptable.	True		5
Cooler Temperature is recorded.	True		6
COC is present.	True		7
COC is filled out in ink and legible.	True		8
COC is filled out with all pertinent information.	True		9
Is the Field Sampler's name present on COC?	True		10
There are no discrepancies between the sample IDs on the containers and the COC.	True		11
Samples are received within Holding Time.	True		12
Sample containers have legible labels.	True		13
Containers are not broken or leaking.	True		14
Sample collection date/times are provided.	True		15
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	True		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		

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TestAmerica Westfield

Date:

entries completed by day [new page each day]

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TestAmerica Westfield

Westfield Executive Park 53 Southampton Road
Westfield, MA 01085
Phone (413) 572-4000 Fax (413) 572-3707

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Sampler:	Brian C. Chaisson	Lab P.M.:	Becky Moran	Carrier Tracking No(s):	COG No:
Client Contact:	Thomas Cashwell	Phone:		E-Mail:		Page:	017504
Company:	Oil & Coatings Inc.	Job #:					

Analysis Requested							
Due Date Requested: TAT Requested (days): Standard Quote #: PO #: WO #: SSW#: Project Name/number: Oil Surface Water Site: Oil Vitrification MA Email: Address: 51 Evans St City: Wilmington State/Zip: MA 01887 Phone: Email: Remarks: 60103 Total Alk Na/C/Na Sp. Gravity Specific Gravity 60103 Alk/C/Na Filter Fliter Lab: Matrix (Water, Solid, Oil/Water, Br/Tissue, Air/Air)							
Preservation Codes:							
A - HCL J - DI Water B - NaOH M - Hexane C - Zn Acetate N - None D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Ascorbic Acid S - H2SO4 I - Ice Z - other (specify)							
Regulatory Programs:							
<input checked="" type="checkbox"/> GW1/S1 <input checked="" type="checkbox"/> CT RSR <input type="checkbox"/> DEP Form <input type="checkbox"/> EDD Required							
Total Number of containers							
Special Instructions/Note:							
Perform MS/MSD? Field Filtered Sample? Sample's initials 48 hr Hold							
Sample Identification							
Preservation Code: SDND							
OC-SW-ECC01	11/8/11	1245	Cw	SW	CW	Y	- X X X X
OC-SW-ECC02	11/8/11	1145	Cw	SW	CW	Y	- X X X X
OC-SW-TG03		1130	Cw	SW	CW	Y	- X X X X
OC-SW-PZ16RR		1155	Cw	SW	CW	Y	- X X X X
OC-SW-PZ17RR		1210	Cw	SW	CW	Y	- X X X X
OC-SW-PZ18RR		1230	Cw	SW	CW	Y	- X X X X
OC-SW-SD17		1220	Cw	SW	CW	Y	- X X X X
OC-SW-P218R-DWP		1230	Cw	Y	Y	X	X X X X
OC-SW-P218R-MS		1230	Cw	Y	Y	X	X X X X
OC-SW-P218R-mSD		1230	Y	Y	Y	X	X X X X
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological							
Deliverable Requested: I, II, III, IV, Other (specify) Reinquished By: <i>John Smith</i> Date/Time: 11/8/11 1515 Reinquished By: <i>Henry Doh</i> Date/Time: 11/8/11 1717 Reinquished By: <i>John Smith</i> Date/Time: 11/8/11 1710							
Sample Disposal (Fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months							
Special Instructions/QC Requirements: Received by: <i>Henry Doh</i> Company: TestAmerica Report by: <i>Henry Doh</i> Company: TestAmerica Received by: <i>Henry Doh</i> Company: TestAmerica							
Cooler Temperature(s) °C and Other Remarks: 1/28/2011 2.0°C / 11°C							